

IN THE CLAIMS:

16. (Twice amended) A set of electrophoretic probes for detecting the presence or absence of one or more of a plurality nucleotide sequences in a sample, the set comprising a plurality of electrophoretic probes selected from the group defined by the formula:

(D, M)-N-T

wherein:

(D, M)-N is an e-tag reporter released from an electrophoretic probe of the set upon digestion of the electrophoretic probe by a nuclease, the e-tag reporter having a charge;

D is a detection moiety;

M is a non-oligomeric compound mobility modifier consisting of from 1 to 500 atoms selected from the group consisting of carbon, hydrogen, oxygen, phosphorus, nitrogen, sulfur, and boron;

N is a nucleotide; and

T is an oligonucleotide specific for at least one of the plurality of nucleotide sequences, each T having a length in the range of from 12 to 60 nucleotides such that at least one nucleotide of T has a capture ligand attached;

and wherein each e-tag reporter of the plurality of electrophoretic probes has a distinct charge/mass ratio so that e-tag reporters of different electrophoretic probes form distinct peaks in an electropherogram upon electrophoretic separation;

and wherein the capture ligand specifically binds to a capture agent that has a charge opposite to that of e-tag reporters so that to exclude undigested electrophoretic probes are excluded from the electropherogram.

17. (previously presented) The set of claim 16 wherein said plurality is in the range of from 5 to 100 and wherein M is a mobility modifier consisting of from 1 to 300 atoms selected from the group consisting of carbon, hydrogen, oxygen, phosphorus, nitrogen, sulfur, and boron.

18. (Cancelled)

19. (previously presented) The set of claim 17 wherein D is a fluorophore, chromophore, or an electrochemical label.

20. (previously amended) The set according to claim 16, 17, or 19 wherein said formula is D-M-N-T.

21. (previously amended) The set of claim 20 wherein said capture ligand is biotin and wherein said capture agent is avidin.

22. (previously presented) The set of claim 20 wherein said oligonucleotide has at least one nuclease-resistant linkage.

23. (previously presented) The set of claim 20 wherein said fluorophore is a fluorescein.

24. (previously amended) The set of claim 20 wherein M consists of from 2 to 100 atoms selected from the group consisting of carbon, hydrogen, oxygen, phosphorus, nitrogen, sulfur, and boron.

25. (Amended) A set of electrophoretic probes for detecting the presence or absence of one or more of a plurality nucleotide sequences in a sample, the set comprising a plurality of electrophoretic probes selected from the group defined by the formula:

(D, M)-N-T

wherein:

(D, M)-N is an e-tag reporter released from an electrophoretic probe of the set upon digestion of the electrophoretic probe by a nuclease, the e-tag reporter having a charge;

D is a detection moiety;

M is a non-oligomeric compound mobility modifier having a molecular weight of between 35 and 1500 daltons;

N is a nucleotide; and

T is an oligonucleotide specific for at least one of the plurality of nucleotide sequences, each T having a length in the range of from 12 to 60 nucleotides such that at least one nucleotide of T has a capture ligand attached;

and wherein each e-tag reporter of the plurality of electrophoretic probes has a distinct charge/mass ratio so that e-tag reporters of different electrophoretic probes form distinct peaks upon electrophoretic separation in an electropherogram upon electrophoretic separation;

and wherein the capture ligand specifically binds to a capture agent that has a charge opposite to that of e-tag reporters so that to exclude undigested electrophoretic probes are excluded from the electropherogram.

26. (previously presented) The set of claim 25 wherein D is a fluorophore, chromophore, or an electrochemical label.

27. (previously presented) The set according to claim 26 wherein said formula is D-M-N-T.

28. (previously presented) The set of claim 27 wherein said capture ligand is biotin and wherein said capture agent is avidin.

29. (previously presented) The set of claim 27 wherein said e-tag reporter is selected from the group consisting of the following compounds:

